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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/018,104	12/05/2001	Paul Welbes	DN1999253USA	5745

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EXAMINER	
MAKI, STEVEN D	
ART UNIT	**PAPER NUMBER**
1733	

DATE MAILED: 09/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/018,104	WELBES ET AL.
	Examiner	Art Unit
	Steven D. Maki	1733

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 June 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

1) The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2) Claims 5-6 and 14-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to claim 5, it is unclear if a tread or a tire is being claimed. The description of "A tread (12) for a tire (10)" on line 1 of claim 5 indicates that the former is being claimed. However, the description of "the tire having three circumferential grooves (20,22, 24), and two continuous ribs (30,32) ..." indicates that the latter is being claimed.

3) The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Nakayama et al

5) Claims 1, 3, 8 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Nakayama et al (US 4078596).

Nakayama et al addresses applicant's one rib embodiment. The term "grooves" is interpreted as reading on Nakayama et al's sipe grooves 7.

Nakayama et al discloses a tire having a tread comprising two circumferential grooves separating three ribs wherein the center rib has two rows of hook shaped semiblind sipe grooves 7 wherein (1) the hook shaped grooves 7 of the first row are circumferentially shifted relative to the hook shaped grooves 7 of the second row and (2) the hook shaped grooves 7 of the first row are *laterally spaced* from the hook shaped grooves of the second row so that the center rib 5 is substantially continuous in the circumferential direction. As can be seen from either figure 3b or figure 3d, a bisecting centerline is inclined obliquely as claimed.

As to claim 1, the claimed tread is anticipated by the tread of Nakayama et al. *The description of "single blind portion" reads on blind portion 7a.* Page 5 of the specification defines "groove" using the following special definition: "'Groove' means an elongated void area in a tread that may extend circumferentially or laterally about the tread in a straight, curved, or zigzag manner.". The term "grooves" in claim 1 is interpreted as reading on Nakayama et al sipes grooves 7. It is acknowledged that Nakayama et al teaches that the sipe grooves 7 will be substantially closed at its contact region with the ground under normal running conditions. However, claim 1 fails to exclude the hook shaped semi blind grooves from closing at its contact region with the ground since claim 1 is directed to a tread instead of a tire - the claimed hook shaped semiblind grooves can close as described by Nakayama depending on the tire into which the claimed tread is incorporated. Furthermore, the special definition

described above fails to require a limitation of the groove having a width which remains open in the footprint.

As to claim 3, the sipes grooves 7 in figures 3b, 3d are oppositely oriented (point in opposite directions) as claimed.

As to claim 8, the claimed centerline reads on the inclination angle for the sipe grooves 7 shown in figures 3b, 3d.

As to claim 10, note shoulder ribs 6, 6'.

6) Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakayama et al in view of Japan '605 (JP 5-605) and Radulescu (WO 98/26945).

As to claim 2, it would have been an obvious alternative to incline the sipes grooves 7 in opposite directions instead of the same direction since Japan '605 and Radulescu, which like Nakayama locate sipes in ribs, suggest inclining sipes on one side of a rib in the opposite direction of the sipes on the other side of the rib. See figure 3 of Japan '605 and figure 2 of Radulescu.

7) Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakayama et al.

As to claim 9, it would have been obvious to one of ordinary skill in the art to incline open portions 7a and 7b such that the bisecting centerline is inclined at 45 degrees as claimed since Nakayama et al teaches inclining section 7a smaller than 45 degrees and inclining section 7b at an angle at least 45 degrees (col. 5 lines 19-27).

Radulescu et al

8) Claims 1, 3, 5-13 and 15-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Radulescu et al (US 6196288) in view of Nakayama et al (US 4078596).

Radulescu et al addresses applicant's two rib embodiment.

Radulescu et al discloses a tire having a tread comprising circumferential grooves and ribs wherein each rib is provided with semi blind sipes. Radulescu et al teaches that the sipes may have different shapes. As to claim 1, it would have been obvious to provide the semi blind sipes in Radulescu et al's ribs as hook shaped semi blind sipes as claimed since Nakayama et al, also directed to a ribbed tire having semiblind sipes, suggests providing such sipes with a hook shape as shown in figures 3b, 3d in order to improve anti-slip property and uneven wear (col. 3 lines 5-15).

As to oppositely orienting (claim 3), Nakayama et al suggests oppositely orienting the hook shaped sipes. As to claim 5, it would have been obvious to oppositely orient sipes in the ribs as claimed since (1) Nakayama et al suggests oppositely orienting hook shaped sipes and optionally (2) it is taken as well known / conventional per se in the tread art to orient sipes in one rib opposite to that of sipes in another rib. As to claim 6, Radulescu et al teaches aligning sipes of one rib with sipes of another rib. As to claims 7 and 16, the limitation therein (common circumferential groove on EP) would have been obvious since (a) Radulescu et al suggests using plural circumferential grooves to form a ribbed tire and optionally (b) a ribbed tire having a circumferential groove on the EP is taken as well known / conventional per se in the tread art. As to claims 8-9 and

17, it would have been obvious to incline the bisecting centerline of such sipes at 30-60 degrees or at 45 degrees as claimed since Nakayama et al teaches inclining section 7a smaller than 45 degrees and inclining section 7b at an angle at least 45 degrees (col. 5 lines 19-27). As to claim 10, Radulescu et al's tread has shoulder ribs. As to claims 11-13 and 18-19, it would have been obvious to provide the shoulder ribs with the claimed curved grooves since Radulescu et al teaches that the shoulder ribs also have sipes; it being noted that the Radulescu et al teaches that the sipes may be curvilinear (col. 3 lines 12-13) and that the sipes may have a reduced depth portion (figure 14). The limitation of claim 15 would have been obvious in view of Nakayama et al's teaching to configure a sipe so as to have a hook shape. In claim 15, the sipe incision reads on the tip of a hook shaped sipe.

9) Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Radulescu et al in view of Nakayama et al as applied above and further in view of Roberts (US Des 169914, cited by applicant) and/or Hargraves (US 2272879, newly cited).

As to claim 14, it would have been obvious to oppositely incline the hook shaped grooves sipes in each rib as in claim 14 while continuing to have hook shaped sipes in one rib oppositely oriented to the hook shaped sipe in the other rib in view of (1) Radulescu's teaching to oppositely incline sipes in each rib and (2) (a) Roberts illustration of "sipes" in ribs wherein the sipes are inclined oppositely in each of the second and fifth ribs while the sipes of the second rib are oriented opposite the orientation of the sipes in the fifth rib and/or (b) Hargraves suggestion to oppositely

incline "sipes" in one rib but oppositely orient those sipes with respect to the sipe in the adjacent rib (figure 8). With respect to Roberts, one of ordinary skill in the art would readily understand that the illustrated lines in the ribs are sipes since it is common in the tread art to so illustrate sipes as evidenced for example by Nakayama et al.

Verdier

10) Claims 1, 3, 8-12 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Verdier (US 3682220) in view of Europe '448 (EP 231448), Miller (US Des. 66870) or Minami et al (US 5526860).

The term "grooves" clearly reads on Verdier's transverse grooves because in order to form water draining conduits, the transverse grooves must remain open in the ground contact patch.

Verdier discloses a tread comprising two circumferential grooves and three ribs. In figure 3, the ribbed tread includes circumferentially shifted blind crosswise / oblique / transverse grooves 36, 37 and 40. The transverse grooves 36, 37 and 40 have a width of 3.5 to 4.5 mm. In figure 5, the ribbed tread includes transverse grooves 57, 63. The transverse grooves reduce longitudinal rigidity of the ribs to facilitate intimate contact with the ground and drain water to the circumferential grooves. The transverse grooves are semi blind (terminate in the rib) to ensure circumferential continuity of the rib to favor quiet rolling and improve resistance to wear and tear. The semiblind grooves are therefore laterally spaced as claimed. The transverse grooves may be arranged either perpendicularly or obliquely with respect to the median plane. See column 2 lines 29-

53. The semiblind transverse grooves illustrated in figure 3 are considered to have a "hook-shape".

As to claim 1, it would have been obvious to one of ordinary skill in the art to provide Verdier's semiblind grooves with a single blind portion instead of two blind portions in view of Europe '448, Miller or Minami's suggestion to configure hook shaped semiblind grooves so as to have a "single blind portion". One of ordinary skill in the art would therefore readily appreciate from the applied prior art that the second circumferentially extending blind portion in Verdier's hook shaped semiblind groove is unnecessary for water drainage - no unexpected results for a single blind portion having been shown. The description of the bisecting centerline being inclined obliquely fails to require an inclination different from that shown by Verdier. In any event: it would have been obvious to one of ordinary skill in the art to arrange the "hook shaped semi-blind" transverse grooves of Verdier such that each "hook-shaped" transverse groove is inclined obliquely as measured from a centerline bisecting the "hook-shaped semi-blind" transverse groove (claim 1) at an angle such as 30-60 degrees (claim 8) or about 45 degrees (claim 9) since (1) Verdier teaches forming the transverse grooves, which facilitate intimate contact with the ground and drain water to the circumferential grooves, as blind grooves having various end configurations (e.g. see figure 3, 5) to ensure circumferential continuity of the rib to favor quiet rolling and improve resistance to wear and tear and (2) Verdier expressly suggests arranging the transverse grooves perpendicularly or obliquely.

As to claim 3, the semiblind grooves in figure 3 are oppositely oriented. As to clam 10, Verdier's tread has shoulder ribs. As to claims 11 and 12, it would have been obvious to provide Verdier's shoulder ribs with the claimed curved grooves and claimed substantially linear alignment in view of (1) Verdier's teaching to provide shoulder grooves in the shoulder ribs which need not terminate therein and (2) Minami's suggestion to align curved shoulder grooves with semiblind grooves. As to claim 20, it would have been obvious to continuously diminish the width of Verdier's hook shaped semiblind groove from the open portion adjacent the circumferentially extending grooves toward the interior of the rib and the single blind portion since Minami shows decreasing the width of the hook shaped semi-blind grooves (which are part of the outer lateral grooves for discharging water) from the opening thereof at the circumferential groove to the inner end thereof.

11) Claims 2 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Verdier in view of Europe '448, Miller or Minami as applied above and further in view of Fukumoto et al (US 5833781).

As to claim 2, it would have been an obvious alternative to oppositely incline the semiblind grooves since Fukumoto et al, which like Verdier teaches semiblind grooves in a rib, suggests oppositely inclining such semiblind grooves (see center rib).

As to claim 4, it would have been obvious to extend a sipe from a blind portion of the blind groove and orient the sipe in the same direction as the blind portion of the blind transverse groove in view of (a) Verdier's teaching to extend a sipe (e.g. sipe 13) from the blind portion of the crosswise groove to enhance mobility of the center and

lateral ridges and (b) Fukumoto et al shows extending a sipe from a blind groove (see notch 11) such that the sipe extends in the same direction as the blind groove.

Allowable Subject Matter

12) Claims 5-6 and 14-19 would be allowable if (1) claim 5 is amended to require a tire instead of merely a tread so as to overcome the rejection(s) under 35 U.S.C. 112, second paragraph and (2) the subject matter at page 5 lines 12-14 of the specification (the groove has a width large enough to remain open in the footprint of the tire) is added to claim 5. There is no motivation to widen the sipes of Radulescu et al such that they are grooves which remain open in the footprint. There is no motivation to further modify Verdier so as to provide the claimed two continuous ribs having the claimed oppositely oriented hookshaped semiblind grooves - such a change being contrary to Verdier's teaching to use two longitudinal grooves to divide the tread into three circumferential zones of equal width.

Claim 13 would be allowable if (1) claim 13 is amended to require a tire instead of merely a tread and (2) the subject matter at page 5 lines 12-14 of the specification (the groove has a width large enough to remain open in the footprint of the tire) is added to claim 13. There is no motivation to widen the sipes of Radulescu et al such that they are grooves which remain open in the footprint. Viewing the prior art as a whole, there is no motivation to further modify Verdier with Hitzky (EP 640498) so as to provide the claimed curved groove with the claimed reduced depth.

Remarks

13) Applicant's arguments filed 6-8-04 have been fully considered but they are not persuasive.

Applicant argues that Nakayama et al fails to teach and disclose each and every aspect of the presently claimed invention because "groove" in claim 1 is distinct from the "sipe groove 7" in Nakayama et al. In particular, applicant argues that Nakayama's sipe grooves will be substantially closed at its contact region instead of staying open in the contact patch. Applicant's argument is not persuasive. **The claimed "groove" reads on the "sipe groove" of Nakayama et al**. Claims must be given their broadest reasonable interpretation consistent with the supporting description. A claim must be interpreted in light of the specification without reading limitations into the claim. Words and phrases in claims must be given their plain meaning as understood by one having ordinary skill in the art unless defined by applicant in the specification with "reasonable clarity, deliberateness, and precision". See MPEP 2111 and 2111.01. In the present case, applicant provides the following special definition for groove: " 'Groove' means an elongated void area in a tread that may extend circumferentially or laterally about the tread in a straight, curved, or zigzag manner." See lines 3-4 on page 5 of specification. The special definition at lines 3-4 on page 5 of the specification places no restrictions on the width of the groove. The special definition does not require the groove to remain open in the contact patch. Using applicant's special definition at page 5 lines 3-4 of the specification, the examiner concludes that claim 1 fails to require the claimed grooves to remain open in the tire contact patch or footprint.

Applicant argues that the present claims are directed to grooves 40 that have a width large enough to remain open in the tires contact pitch or footprint because page 5 lines 12-14 of the specification, specifically recites that the term groove "is intended to have a width large enough to remain open in the tires contact pitch or footprint". Applicant's argument is not persuasive. First: The description at page 5 lines 12-14 of the specification is not part of applicant's special definition at page 5 lines 3-4. Second: Page 5 lines 13-14 of the specification describes "intended" instead of --required--. Third: The description of the tires contact pitch or footprint at page 5 lines 12-14 relates to the tire instead of merely the tread. The examiner therefore again concludes that claim 1 fails to require the claimed grooves to remain open in the tire contact patch or footprint.

Applicant asserts that Nakayama's sipes have more than the recited two portions. This argument is not understood since Nakayama's sipe grooves have one portion opening to the circumferential groove and the other portion (the blind portion) terminating in the rib. It is noted that the claims fail to exclude the blind portion comprising a bend.

Applicant's arguments regarding Radulescu et al are not persuasive because, as explained above, the claims fail to require that the grooves remain open in the contact patch or footprint.

With respect to Verdier, applicant argues that it cannot be simply asserted that one would just "do away" with one blind portion as the second blind portion is unnecessary for water drainage. This argument is not persuasive since (1) the applied

prior art teaches that alternative shapes for crosswise grooves, which like those of Verdier terminate in a circumferential rib of a tire tread, include a hook shape having a single blind portion and (2) Verdier fails to teach that the only shape that may be used for the crosswise grooves is the specifically illustrated shape in figure 3.

Applicant argues that Verdier, Europe '448, Miller and Minami fail to illustrate a hook shape. The examiner disagrees. According to applicant, a hook shaped item must have a configuration that would be capable of catching, holding or suspending an object (pages 9-10 of response filed 6-8-04). This definition presented by applicant is sufficiently broad to read on the illustrated shape of the semiblind grooves illustrated by Verdier (figure 3), Europe '448 (figure 1), Miller (figure 1) or Minami (figure 1). No convincing argument and/or evidence is offered by applicant as to why the illustrated shape of the semiblind groove of Verdier, Europe '448, Miller or Minami would be incapable of holding an object if the hook shape is incorporated in an item.

Applicant's argument that the groove 40 closely resembles the basic fish hook configuration wherein the second portion is strongly bent or curved back in on itself is not commensurate in scope with the claims and is therefore not persuasive. None of claims require the claimed groove to closely resemble the basic fish hook configuration wherein the second portion is strongly bent or curved back in on itself. In contrast, the claims describe "hook-shaped" - applicant acknowledging that the original disclosure does not specifically define "hook shaped" beyond being a two portion groove that has an inclined centerline that bisects the two portions of the groove.

14) Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

15) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven D. Maki whose telephone number is (571) 272-1221. The examiner can normally be reached on Mon. - Fri. 7:30 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine Copenheaver can be reached on (571) 272-1156. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Steven D. Maki
August 31, 2004

STEVEN D. MAKI 9-1-04
PRIMARY EXAMINER
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